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09/578,236	05/24/2000	Marion Sterner	M1025/7001	5409

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ART UNIT	PAPER NUMBER
1732	14

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/578,236	Applicant(s) STERNER ET AL.
	Examiner Geoffrey P. Shipsides	Art Unit 1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *17-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,024,824 (Krech).

With regard to claim 1, Krech teaches a method for producing a plastic film (column 3, line 20; a polymeric sheet constitutes a plastic film) that has improved characteristics (in the instant case improved abrasive or retroeflective properties; Abstract, lines 2-3). Krech teaches the forming of the plastic sheet by extrusion through an extrusion nozzle (Figure 4, ref. No. 42), the film emerging form the nozzle,

distributing at least one active substance on at least one face of the film (Figure 4, ref. No. 44) to form a film in a solidified state at ambient temperature wherein the one or more substances are permanently incorporated in the body of the film to modify the selected characteristics of the film. Krech teaches that the extrusion of the plastic film directly prior to impingement of the heated particles in order for the film to be in a softened or even semi-molten state at the impingement point which improves the embedding of the particles (Column 3, line 67- Column 4, line 4) which inherently means the emerging of the film form the nozzle in at least a partially molten state and also inherently means the distributing of the substance onto the film in a region where the film has a temperature higher than ambient temperature such that the substance penetrates (impinges) the film. It is further inherent in the process of Krech that the film is cooled downstream of the extruder nozzle to a solidified state and is also inherent that at some point the film will cool to ambient temperature.

With regard to claim 2, if the film is impinged at a place where it is in a semi-molten state in the process of Krech, then the region where the particles are impinged is inherently between the point where the film leaves the extruder and the point where the film has a temperature at which dimensional stability thereof is reached.

With regard to claim 3, Krech also teaches an embodiment where the film is merely softened at the point where the particles are impinged, and thus in this embodiment the region where the particles are impinged is inherently between the point where the film has a temperature at which dimensional stability thereof is reached and the point where the film has reached ambient temperature.

With regard to claim 4, the substance of Krech improves the articles abrasive qualities and thus would inherently facilitate the adhesion of other products (including other chemical products as all products are made of some kind of chemical composition) to the film.

With regard to claim 5, Krech teaches the use of a silane as the substance (particles) (Column 5, lines 30-31).

With regard to claim 16, Krech teaches the use of a list of materials that could be used that would constitute "equivalent materials" which are used to modify the mechanical characteristic of the abrasiveness of the film.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,814,207 (Siol et al.).

Siol et al. teaches a process of coating a shaped article with a coating of scratch resistant and weather resistant film (Abstract). Siol et al. teaches an embodiment where a plastic panel is extruded followed by the continuous coating of the panels, which may still be at elevated temperatures, but which should be below the glass transition

temperature of the plastic panel. Siol et al., however, also teaches that with very fast cures, it may be possible to do the coating also at temperatures above the glass transition temperature of the polymer (Column 8, lines 16-27). A plastic panel constitutes a plastic film.

It is further the examiner's position that in the coating of the film in Siol et al. that the coating inherently penetrates at least somewhat into the film in order to form a well connected coating.

Even if Siol et al. does not teach all aspects of the claims, Siol et al. does teach a process that would result in one having ordinary skill in the art to find the instantly claimed process obvious. It is well known in the art to coat plastic films with various coatings downstream of the extrusion of these plastic films. Even if a panel does not constitute a film (and if it does not, then the term "film" should be defined in the instant application) it would have been obvious to one having ordinary skill in the art to also produce plastic films in the manner as taught by Siol et al. as a panel has both films and panels has analogous structures.

Claim Rejections - 35 USC § 103

5. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,814,207 (Siol et al.).

Siol et al. as discussed above applies herein.

With regard to claim 4, although the coating mixture as taught by Siol et al. does not specifically teach that the coating improves the adhesion of ink or other chemical products onto the film, it is the examiner's assertion that the coating of Siol et al. does

improve the adhesion of at least some chemical product, as every material has an affinity to some other particular chemical, and thus the coating of Siol et al. would intrinsically improve the adhesion of some other chemical products on to the film.

With regard to claim 6, every coating is going to produce some degree of protection or "barrier effect". The coating mixture as taught by Siol et al. is scratch and weather resistant, and so is produces a "barrier effect" against the absorption of water (or water vapor).

It would have been prima facie obvious to one having ordinary skill in the art at the time of invention to use the method of Siol et al. to produce films with the desired surface characteristics.

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art on Pages 1 and 2 of the instant specification (Admission) in view of U.S. Patent No. 4,814,207 (Siol et al.).

Admission teaches, "Plastic films are currently widely used, particularly for packaging which are used mainly to package food products." (Page 1, lines 5-6 of the instant specification). Admission further teaches that plastic films with improved characteristics are also known in the art. Admission teaches plastic films with improved adhesion of inks and printing dyes, with "barrier effect", and with "smart" packaging capabilities (Page 1, lines 10-28 of the instant specification). Admission further teaches that "production of plastic films having these improved characteristics ca be based upon the surface application of substances on plastic films at the time of their use, i.e., long after their production." (Page 2, lines 3-5 of the instant specification).

With regard to claim 1, Admission teaches that the application of "active substances" to a plastic film is well known in the art, but does not teach the application of active substances to the plastic film down stream of the extrusion of the plastic film while the plastic film is still above ambient temperature (Page 2, lines 3-5 of the instant specification). Admission also teaches problems with the adhesion of the active substances to the film at this down stream point in the process (Page 2, lines 5-10 of the instant specification). It is, however, well known in the art to apply coating substances to an extrusion to produce a well-connected coated extrudate and Siol et al. is cited as evidence of this. Further, it is well known in the art that a raised temperature of plastic substrates increases the likely hood of a strong bond between a substrate and a coating.

Siol et al. teaches a process of coating a shaped article with a coating of scratch resistant and weather resistant film (Abstract). Siol et al. teaches an embodiment where a plastic panel is extruded followed by the continuous coating of the panels, which may still be at elevated temperatures, but which should be below the glass transition temperature of the plastic panel. Siol et al., however, also teaches that with very fast cures, it may be possible to do the coating also at temperatures above the glass transition temperature of the polymer (Column 8, lines 16-27).

It would have been obvious to one having ordinary skill in the art at the time of invention to modify the prior art process of producing food packaging films by applying active substances to the extruded plastic film directly after the extrusion process while

the plastic film substrate is still at a raised temperature as taught by Siol et al. in order to produce an active substance coated film that has a better connection.

With regard to claims 2 and 3, Siol et al. teaches the coating of an extruded substrate either after the glass transition temperature or before the glass transition temperature downstream of an extruder. It is clear from the teachings of Siol et al. that the point of coating is a result effective variable based upon the type of material used, the type of cure, etc. It would have been obvious to one having ordinary skill in the art at the time of invention to determine the optimal point for coating of a plastic film with active substance as taught by Admission based upon the exact type of active substance, plastic film, and the desired characteristics of the finished film and to determine this point through routine experimentation.

With regard to claims 4-13 and 16, it is clear from the Admission that all of these active substances are well known in the art for the coating of plastic films and that the particular coating produces a particular desired result (Page 1, line 14 - Page 2, line 5 of the instant specification). It would have been obvious to one having ordinary skill in the art at the time of invention to coat the plastic film as taught by Admission by any of these "active substances" as are well known in the art and taught by Admission on to the plastic film after extrusion of the film while the film is still above ambient temperature as taught by Siol et al. in order to produce a plastic film with improved characteristics as taught by Admission but with a better connected coating of active substance.

With regard to claim 14, it is well known in the production of films to coat films on both sides to produce the desired characteristic on both sides of the film. It would have

been obvious to one having ordinary skill in the art at the time of invention to coat both sides of the film as is well known in the art in order to produce the films as taught by Admission having the desired characteristic on both sides of the film.

With regard to claim 15, it is well known in the art to encapsulate reactive material in microcapsules in order to ensure that the reactive material does not react until desired (the microcapsule being broken when desired). It would have been obvious to one having ordinary skill in the art at the time of invention to use the "active material" as taught by Admission in the form of microcapsules in the cases where the "active material" is highly reactive in order to prevent the material from reacting before being coated on to the plastic film.

It would have been prima facie obvious to one having ordinary skill in the art at the time of invention to use the method of Siol et al. to produce films with the desired surface characteristics as taught by Admission.

Response to Arguments

7. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey P. Shipsides whose telephone number is 703-306-0311. The examiner can normally be reached on Monday - Friday 9 AM till 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Geoffrey P. Shipsides/gps
August 10, 2003

MARK EASHOO, PH.D
PRIMARY EXAMINER
Art Unit 1732
11 | Aug | 03